



中国认可  
国际互认  
检测  
TESTING  
CNAS L9291

编号 No.: ZKS231207317-1

# UN38.3 测试报告

## UN38.3 Test Report

样 品 名 称 : 聚合物锂离子电池  
3.7V, 500mAh, 1.85Wh

Sample name : Polymer lithium ion battery  
3.7V, 500mAh, 1.85Wh

型 号 Model : BJY 503035

委 托 单 位 :

Consignor :



检测单位: 东莞市中认联科检测技术有限公司

Laboratory: Dongguan ZRLK Testing Technology Co., Ltd.

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编号 No.: ZKS231207317-1

|                                                        |                       |  |
|--------------------------------------------------------|-----------------------|--|
| 委托单位信息<br>Consignor<br>information                     | 名称<br>Name            |  |
|                                                        | 地址<br>Address         |  |
| 制造商信息<br>Manufacturer<br>information                   | 名称<br>Name            |  |
|                                                        | 地址<br>Address         |  |
|                                                        | 电话<br>Phone number    |  |
|                                                        | 邮箱地址<br>Email address |  |
|                                                        | 网址<br>Website         |  |
| 工厂信息<br>Factory<br>information                         | 名称<br>Name            |  |
|                                                        | 地址<br>Address         |  |
|                                                        | 电话<br>Phone number    |  |
|                                                        | 邮箱地址<br>Email address |  |
|                                                        | 网址<br>Website         |  |
| (电芯)<br>制造商信息<br>(Cell)<br>Manufacturer<br>information | 名称<br>Name            |  |
|                                                        | 地址<br>Address         |  |
|                                                        | 电话<br>Phone number    |  |
|                                                        | 邮箱地址<br>Email address |  |
|                                                        | 网址<br>Website         |  |



编号 No.: ZKS231207317-1

| 样品描述及说明 General product information              |                                         |                                                    |                               |
|--------------------------------------------------|-----------------------------------------|----------------------------------------------------|-------------------------------|
| 样品类型(是否可充电)<br>Sample Type( Rechargeable or not) |                                         | <input checked="" type="checkbox"/> 是/Yes          | <input type="checkbox"/> 否/No |
| 样品信息 Sample information:                         |                                         |                                                    |                               |
| 产品名称<br>Product Name                             | 聚合物锂离子电池<br>Polymer lithium ion battery | 型号<br>Model                                        | BJY 503035                    |
| 商标<br>Trade mark                                 | 无<br>N/A                                | 样品编号<br>Sample No.                                 | B01#~B18#<br>C01#~C30#        |
| 标称电压<br>Nominal Voltage                          | 3.7V                                    | 额定容量<br>Rated Capacity                             | 500mAh                        |
| 额定能量<br>Rated Energy                             | 1.85Wh                                  | 充电截止电压<br>Charge Cut-off Voltage                   | 4.2V                          |
| 最大充电电流<br>Max. Charging Current                  | 500mA                                   | 标准充电电流<br>Standard Charging Current                | 100mA                         |
| 充电截止电流<br>Charge Cut-off Current                 | 10mA                                    | 放电终止电压<br>Discharge Cut-off Voltage                | 3.0V                          |
| 最大放电电流<br>Max. Discharging Current               | 500mA                                   | 标准放电电流<br>Standard Discharging Current             | 100mA                         |
| 形状<br>Shape                                      | 棱柱形<br>Prismatic                        | 尺寸<br>Size                                         | 50.0*30.0*3.5mm               |
| 样品质量<br>Sample Mass                              | 10.4g                                   | 串并联方式<br>Connection composition of series-parallel | 1S1P                          |
| 电芯信息 Cell information:                           |                                         |                                                    |                               |
| 电芯型号<br>Cell Model                               | BJY 503035                              | 标称电压<br>Nominal Voltage                            | 3.7V                          |
| 额定容量<br>Rated Capacity                           | 500mAh                                  | 最大放电电流<br>Max. Discharging Current                 | 500mA                         |



编号 No.: ZKS231207317-1

|                                               |                                                                                                                                                                                                                                                                                        |                     |                                                                  |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------|
| 样品接收日期<br>Accepted date                       | 2023-12-28                                                                                                                                                                                                                                                                             | 测试起讫日期<br>Test date | 2023-12-28 ~ 2024-01-20                                          |
| 测试方法<br>和判定标准<br>Test method<br>and criterion | 联合国《关于危险货物运输的建议书 试验和标准手册》<br>ST/SG/AC.10/11/Rev.7, 38.3<br>UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS"<br>Manual of Tests and Criteria<br>ST/SG/AC.10/11/Rev.7, 38.3                                                                                          |                     |                                                                  |
| 测试项目<br>Test items                            | 高度模拟、温度试验、振动、冲击、外部短路、挤压、过度充电、强制放电<br>Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush,<br>Overcharge, Forced discharge.                                                                                                                              |                     |                                                                  |
| 测试结论<br>Conclusion                            | 经测试, 该样品符合联合国《关于危险货物运输的建议书 试验和标准手册》<br>ST/SG/AC.10/11/Rev.7, 38.3 标准要求。<br>The sample has passed the test items of UNITED NATIONS "Recommendations<br>on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria<br>ST/SG/AC.10/11/Rev.7, 38.3.<br>签发日期(Issue date): 2024-01-20 |                     |                                                                  |
| 备注<br>Remark                                  | ----                                                                                                                                                                                                                                                                                   |                     |                                                                  |
| 编制(职位)<br>Compiler:<br>(Position)             | 李镇宗<br>Henry Li<br>(Test Engineer)                                                                                                                                                                                                                                                     | 李镇宗 Henry Li        | 东莞市中认联科检测技术有限公司<br>Dongguan ZRLK Testing<br>Technology Co., Ltd. |
| 审核(职位)<br>Checker:<br>(Position)              | 杨焯琳<br>Linda Yang<br>(Item Engineer)                                                                                                                                                                                                                                                   | 杨焯琳 Linda Yang      |                                                                  |
| 批准(职位)<br>Approver:<br>(Position)             | 马孝琴<br>Ailis Ma<br>(Approved by )                                                                                                                                                                                                                                                      | 马孝琴 Ailis Ma        |                                                                  |



编号 No.: ZKS231207317-1

| 序号<br>No.                            | 测试项目名称<br>Name of test         | 标准要求或标准条款号<br>Standard requirement or the clause<br>number of standard                              | 测试结果<br>Test result     | 本项结论<br>Test conclusion | 备注<br>Remarks |
|--------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------|-------------------------|---------------|
| 1                                    | 高度模拟<br>Altitude simulation    | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.1 Test T.1 | 见附表 1<br>See Appendix 1 | 合格<br>Passed            | /             |
| 2                                    | 温度试验<br>Thermal test           | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.2 Test T.2 | 见附表 2<br>See Appendix 2 | 合格<br>Passed            | /             |
| 3                                    | 振动<br>Vibration                | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.3 Test T.3 | 见附表 3<br>See Appendix 3 | 合格<br>Passed            | /             |
| 4                                    | 冲击<br>Shock                    | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.4 Test T.4 | 见附表 4<br>See Appendix 4 | 合格<br>Passed            | /             |
| 5                                    | 外部短路<br>External short-circuit | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.5 Test T.5 | 见附表 5<br>See Appendix 5 | 合格<br>Passed            | /             |
| 6                                    | 挤压<br>Crush                    | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.6 Test T.6 | 见附表 6<br>See Appendix 6 | 合格<br>Passed            | /             |
| 7                                    | 过度充电<br>Overcharge             | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.7 Test T.7 | 见附表 7<br>See Appendix 7 | 合格<br>Passed            | /             |
| 8                                    | 强制放电<br>Forced discharge       | 联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3 试验 T.8 Test T.8 | 见附表 8<br>See Appendix 8 | 合格<br>Passed            | /             |
| 测试环境条件<br>Test environment condition |                                | 环境温度: 20℃ - 25℃; 环境湿度: 45% - 75%<br>Ambient temperature: 20℃ - 25℃, Ambient humidity: 45% - 75%     |                         |                         |               |



### Procedure 说明

Test T.1 to test T.5 must be conducted in sequence on the same cell or battery. Test T.6 and test T.8 shall be conducted using not otherwise tested cells or batteries.

必须用相同的电芯或电池按顺序进行试验 1 到试验 5。试验 6 和试验 8 须用没进行过其它试验的电芯或电池。为了测试循环后的电池，试验 7 可用试验 1 到试验 5 后没损坏的电池。

Batteries of B01#~B09# are full charged after one cycle;

电池 B01#~B09#为 1 次循环满电状态;

Batteries of B10#~B18# are full charged after 25th cycle;

电池 B10#~B18#为 25 次循环满电状态;

Cells of C01#~C05# are 50% charged after one cycle;

电芯 C01#~C05#为 1 次循环后 50%充电状态;

Cells of C06#~C10# are 50% charged after 25th cycle;

电芯 C06#~C10#为 25 次循环后 50%充电状态;

Cells of C11#~C20# are full discharged after one cycle;

电芯 C11#~C20#为 1 次循环完全放电状态;

Cells of C21#~C30# are full discharged after 25th cycle.

电芯 C21#~C30#为 25 次循环后完全放电状态。

Remark: Circular preprocessing is provided by customers

备注：循环预处理由客户提供



编号 No.: ZKS231207317-1

附 表 1  
Appendix 1

| 序号<br>No.                                                                                                                                                                               | 1                               | 测试项目名称<br>Name of Test Items | 高度模拟<br>Altitude simulation |                   |                   |                          |                             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|-----------------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|
| 样品编号<br>Sample No.                                                                                                                                                                      | 样品状态<br>Sample status           | 测试前 Before                   |                             | 测试后 After         |                   | 质量损失<br>Mass loss<br>(%) | 剩余电压<br>Residual OCV<br>(%) | 测试结<br>果<br>Test result |
|                                                                                                                                                                                         |                                 | 电池质量<br>$m_1$ (g)            | 开路电压<br>$V_1$ (V)           | 电池质量<br>$m_2$ (g) | 开路电压<br>$V_2$ (V) |                          |                             |                         |
| B01#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.212                       | 4.192                       | 10.211            | 4.188             | 0.01                     | 99.9                        | O                       |
| B02#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.344                       | 4.188                       | 10.342            | 4.186             | 0.02                     | 100.0                       | O                       |
| B03#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.254                       | 4.190                       | 10.252            | 4.187             | 0.02                     | 99.9                        | O                       |
| B04#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.263                       | 4.189                       | 10.262            | 4.186             | 0.01                     | 99.9                        | O                       |
| B05#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.271                       | 4.191                       | 10.269            | 4.188             | 0.02                     | 99.9                        | O                       |
| B10#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.358                       | 4.190                       | 10.356            | 4.186             | 0.02                     | 99.9                        | O                       |
| B11#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.364                       | 4.188                       | 10.363            | 4.185             | 0.01                     | 99.9                        | O                       |
| B12#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.372                       | 4.189                       | 10.370            | 4.186             | 0.02                     | 99.9                        | O                       |
| B13#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.381                       | 4.191                       | 10.379            | 4.187             | 0.02                     | 99.9                        | O                       |
| B14#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.377                       | 4.192                       | 10.376            | 4.188             | 0.01                     | 99.9                        | O                       |
| 以下空白                                                                                                                                                                                    |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                             |                   |                   |                          |                             |                         |
| 注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。<br>Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire |                                 |                              |                             |                   |                   |                          |                             |                         |



编号 No.: ZKS231207317-1

附 表 2  
Appendix 2

| 序号<br>No.                                                                                                                                                                               | 2                               | 测试项目名称<br>Name of Test Items | 温度试验<br>Thermal test |                   |                   |                          |                             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|----------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|
| 样品编号<br>Sample No.                                                                                                                                                                      | 样品状态<br>Sample status           | 测试前 Before                   |                      | 测试后 After         |                   | 质量损失<br>Mass loss<br>(%) | 剩余电压<br>Residual OCV<br>(%) | 测试结<br>果<br>Test result |
|                                                                                                                                                                                         |                                 | 电池质量<br>$m_1$ (g)            | 开路电压<br>$V_1$ (V)    | 电池质量<br>$m_2$ (g) | 开路电压<br>$V_2$ (V) |                          |                             |                         |
| B01#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.211                       | 4.188                | 10.200            | 4.137             | 0.11                     | 98.8                        | O                       |
| B02#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.342                       | 4.186                | 10.330            | 4.135             | 0.12                     | 98.8                        | O                       |
| B03#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.252                       | 4.187                | 10.240            | 4.132             | 0.12                     | 98.7                        | O                       |
| B04#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.262                       | 4.186                | 10.250            | 4.134             | 0.12                     | 98.8                        | O                       |
| B05#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.269                       | 4.188                | 10.257            | 4.138             | 0.12                     | 98.8                        | O                       |
| B10#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.356                       | 4.186                | 10.343            | 4.131             | 0.13                     | 98.7                        | O                       |
| B11#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.363                       | 4.185                | 10.352            | 4.136             | 0.11                     | 98.8                        | O                       |
| B12#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.370                       | 4.186                | 10.356            | 4.133             | 0.14                     | 98.7                        | O                       |
| B13#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.379                       | 4.187                | 10.364            | 4.131             | 0.14                     | 98.7                        | O                       |
| B14#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.376                       | 4.188                | 10.362            | 4.135             | 0.13                     | 98.7                        | O                       |
| 以下空白                                                                                                                                                                                    |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                      |                   |                   |                          |                             |                         |
| 注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。<br>Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire |                                 |                              |                      |                   |                   |                          |                             |                         |





编号 No.: ZKS231207317-1

附 表 3  
Appendix 3

| 序号<br>No.                                                                                                                                                                               | 3                               | 测试项目名称<br>Name of Test Items |                   | 振动<br>Vibration   |                   |                          |                             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|-------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|
| 样品编号<br>Sample No.                                                                                                                                                                      | 样品状态<br>Sample status           | 测试前 Before                   |                   | 测试后 After         |                   | 质量损失<br>Mass loss<br>(%) | 剩余电压<br>Residual OCV<br>(%) | 测试结<br>果<br>Test result |
|                                                                                                                                                                                         |                                 | 电池质量<br>$m_1$ (g)            | 开路电压<br>$V_1$ (V) | 电池质量<br>$m_2$ (g) | 开路电压<br>$V_2$ (V) |                          |                             |                         |
| B01#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.200                       | 4.137             | 10.195            | 4.134             | 0.05                     | 99.9                        | O                       |
| B02#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.330                       | 4.135             | 10.327            | 4.131             | 0.03                     | 99.9                        | O                       |
| B03#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.240                       | 4.132             | 10.234            | 4.128             | 0.06                     | 99.9                        | O                       |
| B04#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.250                       | 4.134             | 10.244            | 4.130             | 0.06                     | 99.9                        | O                       |
| B05#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.257                       | 4.138             | 10.253            | 4.134             | 0.04                     | 99.9                        | O                       |
| B10#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.343                       | 4.131             | 10.338            | 4.127             | 0.05                     | 99.9                        | O                       |
| B11#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.352                       | 4.136             | 10.347            | 4.132             | 0.05                     | 99.9                        | O                       |
| B12#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.356                       | 4.133             | 10.350            | 4.130             | 0.06                     | 99.9                        | O                       |
| B13#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.364                       | 4.131             | 10.360            | 4.126             | 0.04                     | 99.9                        | O                       |
| B14#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.362                       | 4.135             | 10.357            | 4.131             | 0.05                     | 99.9                        | O                       |
| 以下空白                                                                                                                                                                                    |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
| 注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。<br>Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire |                                 |                              |                   |                   |                   |                          |                             |                         |



编号 No.: ZKS231207317-1

附 表 4  
Appendix 4

| 序号<br>No.                                                                                                                                                                               | 4                               | 测试项目名称<br>Name of Test Items |                   | 冲击<br>Shock       |                   |                          |                             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|-------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|
| 样品编号<br>Sample No.                                                                                                                                                                      | 样品状态<br>Sample status           | 测试前 Before                   |                   | 测试后 After         |                   | 质量损失<br>Mass loss<br>(%) | 剩余电压<br>Residual OCV<br>(%) | 测试结<br>果<br>Test result |
|                                                                                                                                                                                         |                                 | 电池质量<br>$m_1$ (g)            | 开路电压<br>$V_1$ (V) | 电池质量<br>$m_2$ (g) | 开路电压<br>$V_2$ (V) |                          |                             |                         |
| B01#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.195                       | 4.134             | 10.193            | 4.129             | 0.02                     | 99.9                        | O                       |
| B02#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.327                       | 4.131             | 10.324            | 4.125             | 0.03                     | 99.9                        | O                       |
| B03#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.234                       | 4.128             | 10.232            | 4.123             | 0.02                     | 99.9                        | O                       |
| B04#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.244                       | 4.130             | 10.241            | 4.125             | 0.03                     | 99.9                        | O                       |
| B05#                                                                                                                                                                                    | 首次完全充电<br>1 CYC Fully Charged   | 10.253                       | 4.134             | 10.250            | 4.128             | 0.03                     | 99.9                        | O                       |
| B10#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.338                       | 4.127             | 10.336            | 4.122             | 0.02                     | 99.9                        | O                       |
| B11#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.347                       | 4.132             | 10.345            | 4.127             | 0.02                     | 99.9                        | O                       |
| B12#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.350                       | 4.130             | 10.348            | 4.124             | 0.02                     | 99.9                        | O                       |
| B13#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.360                       | 4.126             | 10.358            | 4.121             | 0.02                     | 99.9                        | O                       |
| B14#                                                                                                                                                                                    | 25 完全充电<br>25 CYC Fully Charged | 10.357                       | 4.131             | 10.355            | 4.125             | 0.02                     | 99.9                        | O                       |
| 以下空白                                                                                                                                                                                    |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
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|                                                                                                                                                                                         |                                 |                              |                   |                   |                   |                          |                             |                         |
| 注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。<br>Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire |                                 |                              |                   |                   |                   |                          |                             |                         |



编号 No.: ZKS231207317-1

附表 5  
Appendix 5

| 序号<br>No.                                                                                                             | 5                               | 测试项目名称<br>Name of Test Items                 | 外部短路<br>External short circuit |              |  |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------|--------------------------------|--------------|--|
| 样品编号<br>Sample No.                                                                                                    | 样品状态<br>Sample status           | 样品表面最高温度<br>Max. External Temperature<br>(℃) | 测试结果<br>Test result            | 备注<br>Remark |  |
| B01#                                                                                                                  | 首次完全充电<br>1 CYC Fully Charged   | 57.9                                         | O                              | /            |  |
| B02#                                                                                                                  | 首次完全充电<br>1 CYC Fully Charged   | 58.8                                         | O                              | /            |  |
| B03#                                                                                                                  | 首次完全充电<br>1 CYC Fully Charged   | 58.6                                         | O                              | /            |  |
| B04#                                                                                                                  | 首次完全充电<br>1 CYC Fully Charged   | 59.2                                         | O                              | /            |  |
| B05#                                                                                                                  | 首次完全充电<br>1 CYC Fully Charged   | 57.4                                         | O                              | /            |  |
| B10#                                                                                                                  | 25 完全充电<br>25 CYC Fully Charged | 58.1                                         | O                              | /            |  |
| B11#                                                                                                                  | 25 完全充电<br>25 CYC Fully Charged | 58.4                                         | O                              | /            |  |
| B12#                                                                                                                  | 25 完全充电<br>25 CYC Fully Charged | 57.3                                         | O                              | /            |  |
| B13#                                                                                                                  | 25 完全充电<br>25 CYC Fully Charged | 58.2                                         | O                              | /            |  |
| B14#                                                                                                                  | 25 完全充电<br>25 CYC Fully Charged | 57.5                                         | O                              | /            |  |
| 以下空白                                                                                                                  |                                 |                                              |                                |              |  |
|                                                                                                                       |                                 |                                              |                                |              |  |
|                                                                                                                       |                                 |                                              |                                |              |  |
|                                                                                                                       |                                 |                                              |                                |              |  |
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|                                                                                                                       |                                 |                                              |                                |              |  |
|                                                                                                                       |                                 |                                              |                                |              |  |
| 注： D-解体； R-破裂； F-起火； O-无解体、无破裂、无起火。<br>Note: D-Disassembly, R-Rupture, F-Fire, O-No disassembly, no rupture & no fire |                                 |                                              |                                |              |  |



编号 No.: ZKS231207317-1

附表 6  
Appendix 6

| 序号<br>No.                                                                            | 6                                 | 测试项目名称<br>Name of Test Items                  | 挤压<br>Crush         |              |  |
|--------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------|---------------------|--------------|--|
| 样品编号<br>Sample No.                                                                   | 样品状态<br>Sample status             | 样品表面最高温度<br>Max. External Temperature<br>(°C) | 测试结果<br>Test result | 备注<br>Remark |  |
| C01#                                                                                 | 首次 50%容量<br>1 CYC 50% Capacity    | 23.4                                          | O                   | /            |  |
| C02#                                                                                 | 首次 50%容量<br>1 CYC 50% Capacity    | 23.1                                          | O                   | /            |  |
| C03#                                                                                 | 首次 50%容量<br>1 CYC 50% Capacity    | 22.9                                          | O                   | /            |  |
| C04#                                                                                 | 首次 50%容量<br>1 CYC 50% Capacity    | 22.7                                          | O                   | /            |  |
| C05#                                                                                 | 首次 50%容量<br>1 CYC 50% Capacity    | 23.6                                          | O                   | /            |  |
| C06#                                                                                 | 25 次 50%容量<br>25 CYC 50% Capacity | 24.1                                          | O                   | /            |  |
| C07#                                                                                 | 25 次 50%容量<br>25 CYC 50% Capacity | 23.9                                          | O                   | /            |  |
| C08#                                                                                 | 25 次 50%容量<br>25 CYC 50% Capacity | 24.3                                          | O                   | /            |  |
| C09#                                                                                 | 25 次 50%容量<br>25 CYC 50% Capacity | 22.8                                          | O                   | /            |  |
| C10#                                                                                 | 25 次 50%容量<br>25 CYC 50% Capacity | 23.5                                          | O                   | /            |  |
| 以下空白                                                                                 |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
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|                                                                                      |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
|                                                                                      |                                   |                                               |                     |              |  |
| 注: D-解体; F-起火; O-无解体、无起火。<br>Note: D-Disassembly, F-Fire, O-No disassembly & no fire |                                   |                                               |                     |              |  |



编号 No.: ZKS231207317-1

附表 7  
Appendix 7

| 序号<br>No.                                                                            | 7                                | 测试项目名称<br>Name of Test Items | 过度充电<br>Overcharge |
|--------------------------------------------------------------------------------------|----------------------------------|------------------------------|--------------------|
| 样品编号<br>Sample No.                                                                   | 样品状态<br>Sample status            | 测试结果<br>Test result          | 备注<br>Remark       |
| B06#                                                                                 | 首次完全充电<br>1 CYC Fully Charged    | O                            | /                  |
| B07#                                                                                 | 首次完全充电<br>1 CYC Fully Charged    | O                            | /                  |
| B08#                                                                                 | 首次完全充电<br>1 CYC Fully Charged    | O                            | /                  |
| B09#                                                                                 | 首次完全充电<br>1 CYC Fully Charged    | O                            | /                  |
| B15#                                                                                 | 25 次完全充电<br>25 CYC Fully Charged | O                            | /                  |
| B16#                                                                                 | 25 次完全充电<br>25 CYC Fully Charged | O                            | /                  |
| B17#                                                                                 | 25 次完全充电<br>25 CYC Fully Charged | O                            | /                  |
| B18#                                                                                 | 25 次完全充电<br>25 CYC Fully Charged | O                            | /                  |
| 以下空白                                                                                 |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
|                                                                                      |                                  |                              |                    |
| 注: D-解体; F-起火; O-无解体、无起火。<br>Note: D-Disassembly, F-Fire, O-No disassembly & no fire |                                  |                              |                    |

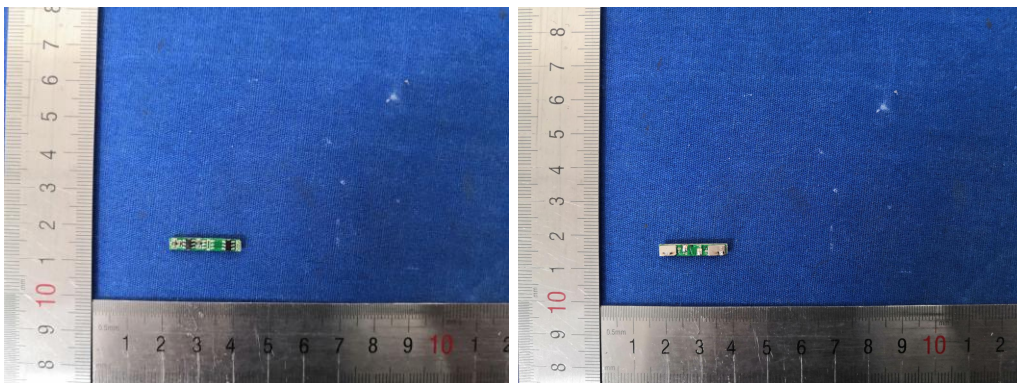
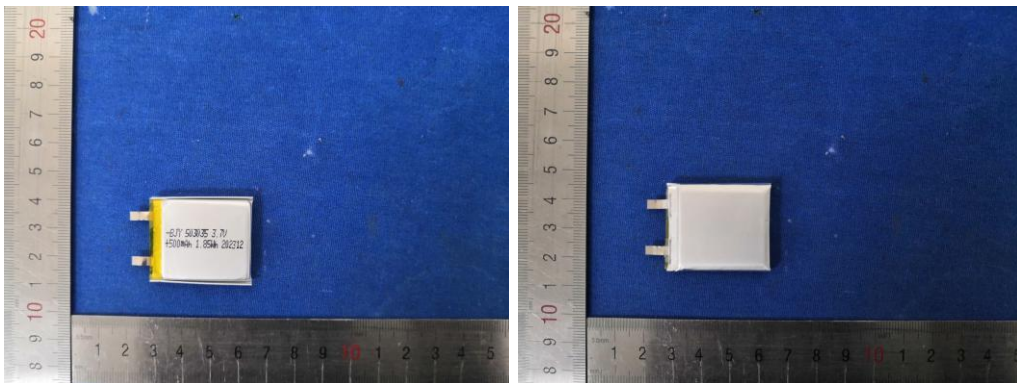
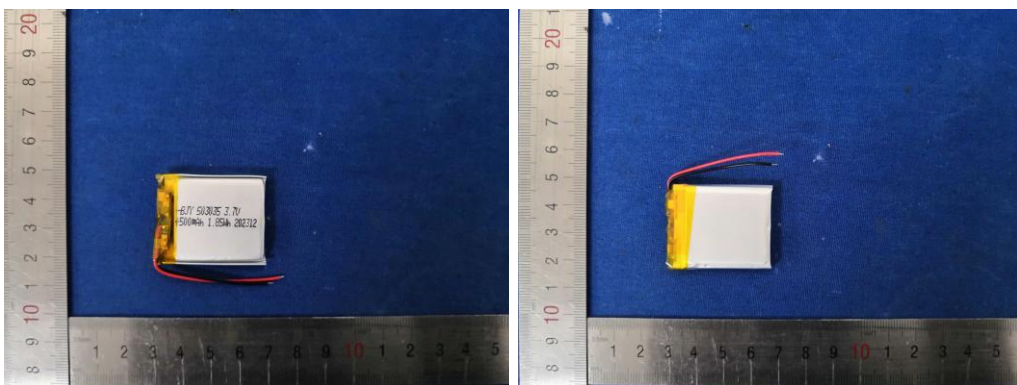
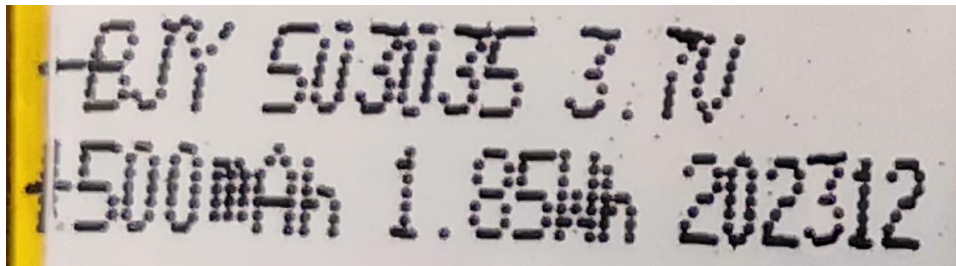


编号 No.: ZKS231207317-1

附表 8  
Appendix 8

| 序号<br>No.                                                                            | 8                                   | 测试项目名称<br>Name of Test Items | 强制放电<br>Forced discharge |
|--------------------------------------------------------------------------------------|-------------------------------------|------------------------------|--------------------------|
| 样品编号<br>Sample No.                                                                   | 样品状态<br>Sample status               | 测试结果<br>Test result          | 备注<br>Remark             |
| C11#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C12#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C13#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C14#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C15#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C16#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C17#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C18#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C19#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C20#                                                                                 | 首次完全放电<br>1 CYC Fully Discharged    | O                            | /                        |
| C21#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C22#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C23#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C24#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C25#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C26#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C27#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C28#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C29#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| C30#                                                                                 | 25 次完全放电<br>25 CYC Fully Discharged | O                            | /                        |
| 注: D-解体; F-起火; O-无解体、无起火。<br>Note: D-Disassembly, F-Fire, O-No disassembly & no fire |                                     |                              |                          |

# 样品照片 Sample photo



\*\*\*\*\* The end \*\*\*\*\*



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The test report is invalid without the official stamp of ZRLK.
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The test report is invalid without the signatures of Approver, Checker and Compiler.
4. 客户必须如实提供样品及资料，并保证申报品名和样品以及运输货物相同，否则本检测单位不承担任何相关责任。  
The client should provide samples and relevant data, at the same time, they should guarantee the consistence of the product's name the declared, the samples they provided and the goods to be transported. Otherwise we will not bear any relevant responsibilities.
5. 本报告涂改无效。  
The test report is invalid if altered.
6. 对检验报告若有异议，应于收到报告之日起十五天内向检验单位提出。  
Objection to the test report must be submitted to ZRLK within 15 days.
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The test report is valid for the tested samples only.
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